LIBERTY UNIVERSITY

Bachelor of Science in Industrial and Systems Engineering
2024-2025 Degree Completion Plan

Important: This degree plan is effective for those starting this degree program in fall 2024 through summer 2025. This degree plan will remain in effect for students who do not break enrollment or who do not change degree programs, concentrations or cognates.

GENERAL EDUCATION/
FOUNDATIONAL SKILLS REQUIREMENTS (42-45 hours)

Course		Hrs	Sem	Grade
Communication & Information Literacy (12 hours)[1]				
ENGL 101	Composition & Rhetoric	3		
_____	Communications Elective	3		
_____	Information Literacy Elective	3		
_____	Information Literacy Elective	3		
Technological Solutions & Quantitative Reasoning (5-8 hours)[1]				
UNIV 101	Foundational Skills	1		
MATH ____	Math Elective (MATH 114 or higher)	4		
_____	Technology Competency[2]	0-3		
Critical Thinking (5 hours)[1]				
RLGN 105	Intr Bwvw/Contemp Moral Issues[3]	2		
_____	Critical Thinking Elective	3		
Civic & Global Engagement (5 hours)[1]				
EVAN 101	Evangelism & Christian Life[3]	2		
_____	Cultural Studies Elective	3		
Social & Scientific Inquiry (7 hours)[1]				
_____	Natural Science Elective	4		
_____	Social Science Elective	3		
Christianity & Contexts (8 hours)[1]				
BIBL 105	Old Testament Survey	2		
BIBL 110	New Testament Survey	2		
THEO 201	Theology Survey I[3]	2		
THEO 202	Theology Survey II[3]	2		

Course		Hrs	Sem	Grade
Major Foundational Courses (4-18 hours)				
CSCN 111	Introduction to Programming[4,5]	3		
ENGR 270	Technical Communication[4,5]	3		
MATH 131	Calculus & Analytical Geometry I[4,5]	4		
MATH 132	Calculus & Analytical Geometry II[4,5]	4		
PHYS 231	University Physics I[4,5,6]	4		
MAJOR				
	Core (51 hours)			
ENGI 220	Engineering Economy[5]	3		
ENGI 230	Production Systems[5]	3		
ENGI 300	Enterprise Forecasting	3		
ENGI 305	Data Analysis Methods & Modeling	3		
ENGI 330	Facilities Design	3		
ENGI 340	Intro. Ops. Res.: Deterministic Models	3		
ENGI 350	Intro. Ops. Res.: Probabilistic Models	3		
ENGI 360	Engineering Information Systems	3		
ENGI 383	Project Mgmt. & Systems Engineering	3		
ENGI 420	Adv. Data Analysis & Machine Learning	3		
ENGI 430	Decision Analysis	3		
ENGI 450	Human Factors & Ergonomics	3		
ENGI 460	Digital Simulation	3		
ENGR 110	Intro. to Engineering Fundamentals[5]	3		
ENGR 370	Quality Assurance	3		
ENGR 481	Engineering Design I	3		
ENGR 482	Engineering Design II	3		
	Technical Electives (9 hours)[5,6,7,8]			
_____	_____	_		
_____	_____	_		
_____	_____	_		
	Quantitative Studies (20 hours)			
ENGR 210	Prob. & Statistical Methods for Engr.[5]	3		
MATH 221	Applied Linear Algebra[5]	3		
MATH 231	Calculus & Analytical Geometry III[5]	4		
MATH 250	Introduction to Discrete Mathematics[5]	3		
MATH 302	Introduction to Exp. Des. in Statistics[5]	3		
PHYS 232	University Physics II[5,6]	4		

Graduation Requirements

126	Total Hours
2.0	Overall grade point average
31.5	Hours must be upper-level courses (300-400 level)
Grade of 'C'	Minimum required for all upper-level courses in the major
25%	Of major, including technical electives and quantitative studies, taken through Liberty University
31.5	Hours must be completed through Liberty University
Grad App	Submission of Degree Completion Application must be completed within the last semester of a student's anticipated graduation date
CSER	All requirements must be satisfied before a degree will be awarded

Notes

All applicable prerequisites must be met

[1] Refer to the list of approved general education electives at www.liberty.edu/gened before enrolling in foundational skills requirements

[2] All students must pass the Computer Assessment OR complete applicable INFT course; refer to www.liberty.edu/computerassessment for more information

[3] Students transferring in 45 or more UG credit hours will have the requirements of RLGN 105 & EVAN 101 waived; Students transferring in 60 or more UG credit hours will also have the requirements of THEO 201 & THEO 202 waived

[4] Courses may also fulfill select General Education Requirements. Please refer to the list of approved general education electives at www.liberty.edu/gened

[5] Minimum grade of "C" is required

[6] Lab Science courses require lab

[7] Select from the list of Approved Engineering Technical Elective Courses

[8] ENGR 495 (Directed Research) is strongly recommended

Suggested Course Sequence on second page

SUGGESTED COURSE SEQUENCE

FRESHMAN YEAR

First Semester		Second Semester	
BIBL 105	2	BIBL 110	2
ENGL 101	3	Communications Elective[3] [ENGR 270[1]]	3
MATH 131[1]	4	Mathematics Elective[3] [MATH 132[1]]	4
RLGN 105	2	Natural Science Elective[3] [PHYS 231[1]]	4
UNIV 101	1	ENGI 220[1]	3
Technology Competency[2]	0-3	CSER	0
ENGR 110[1]	3		Total 16
CSER	0		
	Total 15-18		

SOPHOMORE YEAR

EVAN 101	2	ENGI 230[1]	3
Information Literacy Elect.[3] [CSCN 111[1]]	3	ENGI 360	3
MATH 231[1]	4	MATH 221[1]	3
MATH 250[1]	3	MATH 302[1]	3
CSER	0	PHYS 232[1]	4
	Total 12	CSER	0
			Total 16

JUNIOR YEAR

Cultural Studies Elective[3]	3	Critical Thinking Elective[3]	3
Information Literacy Elective[3]	3	Social Science Elective[3]	3
ENGI 330	3	ENGI 305	3
ENGI 340	3	ENGI 350	3
ENGR 210[1]	3	ENGR 370	3
CSER	0	ENGI 383	3
	Total 15	CSER	0
			Total 18

SENIOR YEAR

THEO 201	2	THEO 202	2
ENGI 300	3	ENGI 450	3
ENGI 420	3	ENGI 460	3
ENGI 430	3	ENGR 482	3
ENGR 481	3	Technical Elective[1,4]	3
Technical Elective[1,4]	3	Technical Elective[1,4,5]	3
CSER	0	CSER	0
	Total 17		Total 17

Notes
[1]Minimum grade of "C" is required
[2]All students must pass the Computer Assessment OR complete applicable INFT course; refer to www.liberty.edu/computerassessment
 for more information
[3]Refer to the list of approved general education electives at www.liberty.edu/gened before enrolling in foundational skills requirements
[4]Select from the list of Approved Engineering Technical Elective Courses
[5]ENGR 495 (Directed Research) is strongly recommended